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Paula S. Lickhart

Signature

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Preston H. DORSETT
Frances I. BYRD
Robert F. DEVLIN

Serial No.: To be assigned

Filed: Herewith

For: IMPROVED SPECIFICITY IN THE DETECTION OF ANTI-RUBELLA IgM ANTIBODIES

Confirmation No.: To be assigned

Group Art Unit: To be assigned

Examiner: To be assigned

Atty. Dkt. No.: 13096.0020.DVUS02

PRELIMINARY REMARKS

MS Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria VA, 22313-1450

Sir:

This paper provides Applicant's Preliminary Remarks in the above captioned application, which is filed concurrently herewith.

I. Changes from Parent Application

Pursuant to the provisions of 37 C.F.R. §§ 1.51, 1.53, and 1.63 (d) the enclosed Specification has been modified from the application filed in the parent case (*i.e.* application

number 09/850,022) as indicated below. Unless otherwise indicated all page numbering refers to the parent application, *i.e.* No. 09/850,022). Applicant believes that no new matter is entered by these modifications.

A. The following paragraph has been added at page 2, line 1:

"This is a divisional application of copending Application Serial No. 09/850,022, filed May 7, 2001, which is a continuation of Application Serial No. 09/203,161, filed December 1, 1998."

B. Amendment of paragraphs at page 11, lines 1-15.

"The E1 and E2 viral glycoproteins substantially free of rubella capsid protein can be immobilized on a solid support. The solid support can be provided in one of many different forms. Representative examples of solid support materials include membranes, filters, glass, plastic, plastic beads, agarose beads, SEPHAROSE™ beads (SEPHAROSE™ is a registered trademark of Pharmacia Biotech, Piscataway, NJ), and magnetic beads.

In addition to the different forms, the solid support can be composed of a variety of materials. The solid support is preferably nitrocellulose, polyvinylidene difluoride, nylon, rayon, cellulose acetate, agarose, SEPHAROSE™ beads, metal, polypropylene, polyethylene, polystyrene, polyvinyl chloride, polyvinyl acetate, polyamide, polyimide, polycarbonate, polyether, polyester, polysulfone, polyacetal, polystyrene, or polymethyl methacrylate; more preferably is polypropylene, polystyrene, polyvinyl chloride, polyamide, polycarbonate, polyether, polymethyl methacrylate, nitrocellulose, polyvinylidene difluoride, or nylon; and most preferably is polypropylene or polystyrene."

C. Amendment of paragraph bridging pages 14 and 15.

"Partially purified or highly purified rubella virus in buffer containing 150 mM NaCl, 10 mM Tris-HCl (pH 8.15), 10 mM EDTA, and 1.0 M KCl (NTE/KCl) was adjusted to 0.1 to 1.0 mg/mL protein by dilution in the same NTE/KCl buffer. TRITON™ X-114 surfactant (TRITON™ is a registered trademark of Rohm and Haas Co., Spring House, PA) was then added to a final concentration of 1% (vol/vol). The solution was placed in an ice-water bath for 30

minutes and mixed at intervals by vortexing, after which it was allowed to incubate at room temperature for 10 to 15 minutes. As the solution warmed, it became turbid due to a microscopic phase separation that occurred when the solution temperature passed the cloud point. During the room temperature incubation the solution was mixed vigorously two times by vortexing for 30 to 60 seconds to maximize the interaction of the glycoproteins with the forming micelles. The solution was then centrifuged for 10 minutes at 1000 x g at room temperature to collect the detergent phase at the bottom of the tube. The upper aqueous phase, containing the capsid protein, was removed and the detergent phase was solubilized in the original volume of cold NTE/KCl. After a few minutes in the ice-water bath, the temperature of the solubilized detergent phase was allowed to rise above the cloud point with mixing, thereby allowing phase separation to occur as described above. The detergent phase was collected and solubilized and the phase separation was repeated twice. After the third phase separation, the detergent phase containing the glycoproteins was solubilized in one-half the original volume of cold NTE buffer. The detergent was removed by three extractions with cold ether, after which the rubella virus glycoproteins were in the aqueous phase. Capsid protein was not detectable as an impurity in the extracted glycoproteins, as demonstrated by SDS-PAGE followed by silver staining."

D. Amendment of paragraph bridging pages 16 and 17.

"The serum test samples, an IgM calibrator serum and an IgM positive control serum were individually diluted 1:10 or greater in the IgM serum diluent of Example 3. The dilutions were allowed to incubate at room temperature for 10 to 60 minutes, after which 0.1 mL of each diluted serum was placed in a separate well of the antigen-coated plate described in Example 2. After addition of all the serum samples, the plate was incubated in a moist chamber at room temperature for 30 minutes. The fluid was removed by inverting the plate over a sink or beaker and then slapping the plate on paper towels to remove any excess diluted serum. Each well was washed three times with a wash buffer consisting of phosphate buffered saline containing 0.1% (wt/vol) bovine serum albumin and 0.05% (vol/vol) TWEEN^{TM}-20 detergent (TWEEN^{TM} is a registered trademark of Rohm and Haas Co., Spring House, PA). The wells were filled with wash buffer and the fluid was removed as described above. After the final wash was removed from the wells, 0.1 mL of goat antihuman IgM conjugated with alkaline phosphatase obtained from Kirkegaard and Perry Laboratories, Inc., Gaithersburg, Maryland (IgM conjugate) was

placed in each well. The IgM conjugate was diluted in phosphate buffered saline containing 1% (wt/vol) bovine serum albumin and 0.05% TWEEN™-20 detergent prior to use. The conjugate was allowed to incubate for 30 minutes at room temperature in a moist chamber. After incubation, the conjugate was removed from the wells, and each well was washed 3 times with wash buffer as described above. After the last wash was removed from the wells, 0.1 mL of alkaline phosphatase substrate solution was placed in each well, and the plate was incubated for 30 minutes at room temperature in a moist chamber to allow color development. The color was read at 405 nm using a spectrophotometer."

E. The original claims have be replaced with current claims 1-14.

II. Rational and support for changes

Applicant notes that the Specification filed herewith is modified with respect to the specification originally filed in patent application number 09/850,022 in order to cross reference and claim the benefit of an earlier filing date of the parent applications.

The Application has been further modified, as was done in the parent application, to comply with the requirements regarding the use of Trademarks in patent applications (*see* amendments B.–D. above).

Applicant further notes that the current claims, 1–14, find support in the original Specification as indicated in Table 1, below. Additionally, claim 1, 8, and 11 are modified to bring them into alignment with amendments made during the prosecution of the parent application.

TABLE 1

Current Claim Number	Support in original Specification (*i.e.* Application No. 09/850,022)
1–14	Original claims 17–30, respectively, and in the original Specification, page 6, line 29, through page 7, line 2 and page 10, lines 18–30.

It is believed that no additional fee is due; however, should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, the Commissioner is authorized to deduct said fees from Deposit Account No. 01-2508/**13096.0020.DVUS02**.

Applicant respectfully submits that the claims are in proper form and condition for allowance. Applicant requests that the claims be allowed and the application advanced to issue.

The Examiner is invited to contact the undersigned Patent Agent at (713) 787-1589 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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